

## ABSTRACT

An AC motor control apparatus that is applicable to commonly used PM motors and capable of detecting the magnetic pole position with simple algorithm. The AC motor control apparatus comprises an inverter for applying arbitrary AC power to an AC motor and a controller for sending a control signal to the inverter. The controller comprises a ripple current generator for supplying a ripple current to the AC motor and a magnetic pole position estimator. The magnetic pole position estimator observes at least two current values of the ripple current for both positive and negative sides of the ripple current to estimate the magnetic pole position of the AC motor.